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KEY TO THE WILD DAFFODILS (*NARCISSUS*, AMARYLLIDACEAE) OF ALABAMA AND ADJACENT STATES

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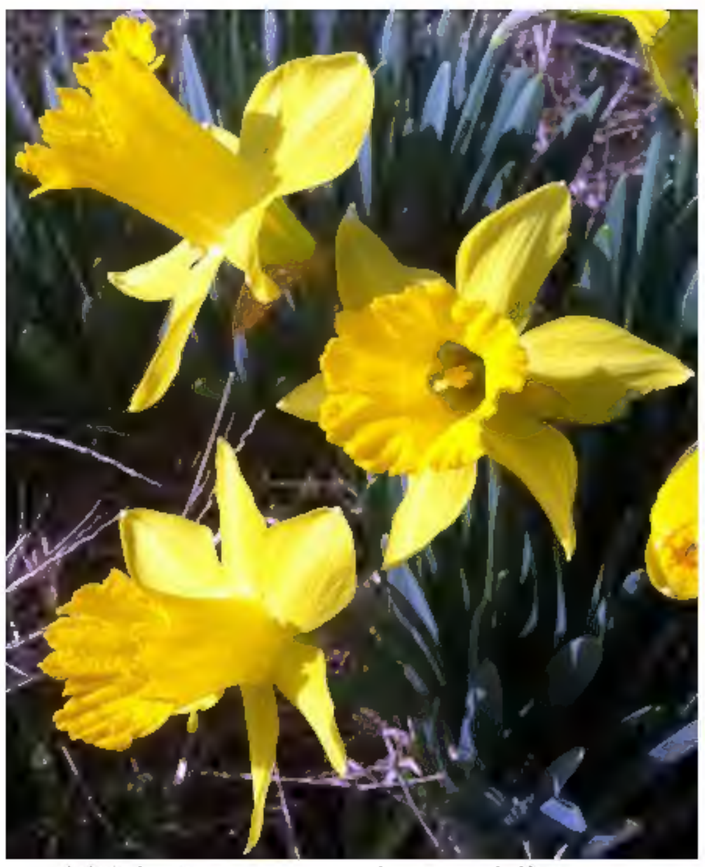
ABSTRACT

The genus *Narcissus* (Amaryllidaceae) is composed of about 26 species and four hybrids (*N.* ×*incomparabilis*, *N.* ×*intermedius*, *N.* ×*medioluteus*, *N.* ×*odorus*) that occur in the wild. Daffodils are native to Europe, western Asia, and northern Africa, but are introduced and naturalized elsewhere. In North America, six species (*N. bulbocodium*, *N. jonquilla*, *N. papyraceus*, *N. poeticus*, *N. pseudonarcissus*, *N. tazetta*) and the four previously mentioned hybrids have escaped cultivation. Each of these ten taxa occurs within the five-state region of Alabama, Georgia, Florida, Mississippi, and Tennessee. Keys, maps, photographs, and commentary are provided for each taxon.

Daffodils (*Narcissus* spp.) are bulbous perennials in the Amaryllidaceae (Amaryllis Family). *Narcissus* have showy white to yellow flowers with six tepals and a corona, which is also called a floral cup, tube, or crown. Flowers are either solitary or in clusters of 2 or more (Fig. 1).



(a) Photo: Savannah Spaulding

(b) Photo: Wayne Barger

Figure 1. (a) *Narcissus pseudonarcissus*, roadside, Calhoun Co., Alabama, 23 Feb 2014. (b) *Narcissus tazetta*, roadside, Fayette Co., Alabama, 2 Mar 2014.

All *Narcissus* are native to meadows and woods of Europe, north Africa and west Asia, with their distribution centered in the Mediterranean region (Webb 1980). Various common names including daffodil, narcissus, and jonquil are used to describe all or some members of the genus. The number of distinct species varies widely depending on how they are classified. According to Straley and Utech (2002), there are about 26 species, while other authors define more than 60 species (e.g., Ji & Meerow 2000).

Linnaeus (1753) named the genus and designated *Narcissus pseudonarcissus* as the type species. Haworth (1831) in his monograph divided the genus into 16 genera, but most authors place his genera within sections of *Narcissus* (Webb 1980). There are two possible derivations for the origin of the generic name. The first is said to be derived from the Greek work "*narkeo*, "to be stupified," referring to the narcotic alkaloids of the bulbs (Dweck 2002). Another interpretation is that the beautiful flower was named after Narcissus, the Greek mythological character, who fell in love with his reflection (Grieve & Leyel 1931). According to Martin (1987), the name 'daffodil" may possibly originate from the old English word, *affodyle*, which means 'that which comes early' or it may have been first named "d'asphodel" after the similar Asphodel flowers (*Asphodelus*).

Species and hybrids of *Narcissus* are widely used in gardens and landscapes. The cultivation of daffodils began before the end of the Sixteenth Century with collections originating from Spain and grown in the Netherlands (Pugsley 1933). Today there are thousands of named cultivars of *Narcissus* grouped in divisions such as trumpet daffodils, chalice-cupped daffodils, poet daffodils, bunch-flowered daffodils, double daffodils, and jonquils. Since daffodils have been cultivated for centuries, many wild populations that have naturalized are polymorphic due to horticultural selection (Webb 1980). Dearing and Griffiths (1930) declared that "there is scarcely a group of plants that has received so much attention at the hand of the hybridist or has been so much modified by culture and crossbreeding as the daffodil." *Narcissus* breeder George H. Engleheart (1895) unlocked the mystery of some of the crosses by taking on "the task of attempting to 'make' all these flowers over again, in order to determine with certainty their origin." Engleheart was successful in his quest and he discovered seven hybrid crosses for daffodils that were once thought to be species.

Naturalized daffodils are often undercollected and misidentified by field botanists. When making specimens of *Narcissus*, the collector should note number of flowers per scape (in the population), fragrance, tepal/corona color, and whether leaves are glaucous, green, flat, grooved, or round. Pugsley (1915) wrote that "while present-day gardeners have striven with energy to improve the Narcissus, very little botanical work on the genus has appeared."

Specimens were examined from various herbaria in the South (ALNHS, AMAL, AUA, BRIT, GA, FSU, JSU, MISS, TENN, TROY, UNA, and VDB). Maps (adapted from Lee 2012) were generated from over 200 recent collections by the authors, vouchered herbarium specimens from the institutions listed above, and the Alabama Plant Atlas (APA Editorial Committee 2014). Many North American treatments of *Narcissus* were utilized to assist in creating the following keys and determination of specimens. Publications used as references include the following: A Guide to Wild Daffodils (Blanchard 1990), Illustrated Flora of East Texas, Vol. 1 (Diggs et al. 2006), *Narcissus* species and wild hybrids (Meyer 1966), *Narcissus* of Arkansas (Serviss 2009), Flora of North America, Vol. 26 (Straley & Utech 2002), Keys to the Flora of Arkansas (Smith 1994), Flora of the Southern and Mid-Atlantic States (Weakley 2013), and Flora Europaea, Vol. 5 (Webb 1980).

Information on taxa is generally set up in the following format: **Number. Name** author(s) {derivation of specific epithets}. VERNACULAR NAME. Habitat; relative abundance in Alabama; flowering dates. Comments. [Distribution in adjacent states].

KEY TO *NARCISSUS* OF ALABAMA AND ADJACENT STATES

1. Flowers doubled, corona divided into numerous segments resembling tepals; stamens usually petaloid.

    2. Corona segments and tepals all about the same length; flowers yellow to greenish, corona segments frequently similar in color to tepals ..... **1. Narcissus pseudonarcissus**
    2. Corona segments shorter than tepals; flowers bicolored, corona segments usually bright orange and tepals pale yellow to creamy-yellow (petaloid stamens cream to yellow) ..... **3. Narcissus ×incomparabilis**

1. Flowers not doubled, corona undivided and distinct from tepals; stamens not petaloid.

    3. Corona as long as or longer than tepals; flowers yellow to orange-yellow (rarely white) and always solitary (1 per flowering stalk).

        4. Tepals ovate, triangular-ovate or suborbicular, more than 10 mm wide; leaves glaucous and greater than 5mm wide; corona cylindrical; anthers parallel to axis of tepals ..... **1. Narcissus pseudonarcissus**
        4. Tepals linear to narrowly lanceolate, less than 5 mm wide; leaves dark green and less than 3 mm wide; corona broadly funnel-shaped (infundibuliform), anthers perpendicular to axis of tepals..... **2. Narcissus bulbocodium**

    3. Corona distinctly shorter than the tepals; flowers yellow or white, 1–20 per flowering stalk.

        5. Corona ½ to ¾ as long as the tepals; hypanthial tube (just below perianth) distinctly widening towards the apex; tepals cream-colored, pale yellow or bright yellow and corona orange-yellow to golden yellow.

            6. Inflorescences always solitary; leaves mostly 7–11 mm wide, flat and not grooved; flowers fragrant and typically bicolored, tepals cream-colored or pale yellow and corona usually darker yellowish-orange..... **3. Narcissus ×incomparabilis**
            6. Inflorescences often umbellate (1)2(3–4)-flowered; leaves mostly 2–6 mm wide, thickened and grooved; flowers very fragrant and mostly uniform in color (corona sometimes slightly darker), tepals and corona both golden yellow to yellowish-orange ..... **4. Narcissus ×odorus**

        5. Corona much less than ½ as long as tepals; hypanthial tube mostly parallel-sided, though usually slightly flaring near the apex; tepals and corona yellow or white.

            7. Leaves thickened and either cylindrical (rush-like) or concave to folded, 2–9 mm wide; leaf surface green (not glaucous); tepals yellow.

                8. Leaves mostly round (terete), occasionally folded or grooved, 2–4 mm wide; flowers typically uniformly golden yellow, corona the same color as the tepals or only slightly darker; inflorescence 1–3 (4)-flowered..... **5. Narcissus jonquilla**
                8. Leaves concave (curved inward and somewhat flattened on one side), 3–10 mm wide; flowers with light lemon-yellow tepals and a distinctly darker yellow-orange corona; inflorescence 3–6 (7)-flowered ..... **6. Narcissus ×intermedius**

7. Leaves flat, not grooved 6–20 mm wide; leaf surface often glaucous; tepals white to cream (rarely yellow).

    9. Inflorescence 1–3-flowered; tepals larger, usually 15–30 mm long; flowers fragrant or odorless.

        10. Inflorescence always solitary (only one flower per stalk); corona bright yellow with a distinctive red, wavy rim (which often fades when dried); tepals white, usually 20–30 mm long; flowers fragrant ..... **7. Narcissus poeticus**
        10. Inflorescence usually with 2 flowers (occasionally solitary or in 3's); corona usually yellow (rarely orange) but lacking a red rim (a reddish line is often present just below the rim); tepals cream-colored to white, usually less than 20 mm long; flowers not fragrant or only slightly so ..... **8. Narcissus ×medioluteus**

    9. Inflorescence usually 4–15-flowered (occasionally with more or less flowers); tepals smaller, usually less than 15 mm long; flowers strongly fragrant.

        11. Flowers concolored (entirely white), tepals and corona pure white (coronas may turn slightly coffee-colored as they age) ..... **9. Narcissus papyraceus**
        11. Flowers bicolored, tepals white, cream or yellow and corona yellow to orange ..... **10. Narcissus tazetta**

1. Narcissus pseudonarcissus Linnaeus {false narcissus} — COMMON DAFFODIL; TRUMPET NARCISSUS (Figs. 1a & 2). Roadsides, fields, pastures, lawns, open woods, old home sites; throughout Alabama; common; February–March. This species is a native of Europe and is the most widely naturalized species in North America. It has escaped cultivation in the eastern half of the USA and also occurs in West Coast states (BONAP 2013). *Narcissus pseudonarcissus* is identified by its solitary flowers with a corona as long as or longer than the tepals. Double forms are often confused with double-flowered *N.* ×*incomparabilis*, but the tepals of *N. pseudonarcissus* are almost as long as the corona segments. [FL, GA, MS, TN]

(a) Typical form (b) Double yellow form (c) Double green form

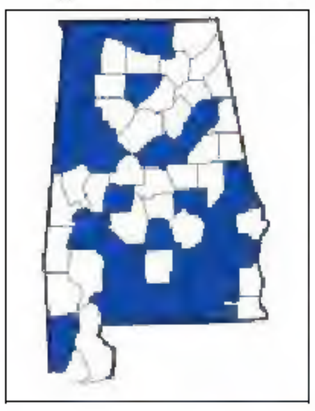
Figure 2. *Narcissus pseudonarcissus*, (a) Roadside, Blount Co., Alabama, 27 Feb 2014. Photo: Wayne Barger (b) Herbarium specimen (AMAL), *Spaulding & Taylor 13881*, roadside, Cleburne Co., Alabama, 15 Mar 2014. (c) Cultivated specimen, Greene Co., Alabama, 22 Feb 2010. Photo: Richard Buckner.

2. Narcissus bulbocodium Linnaeus {bulb with sheep skin} — HOOP-PETTICOAT DAFFODIL (Fig. 3).

Roadsides, disturbed woods and woodland borders; upper Coastal Plain; rare; March–April. *Narcissus bulbocodium* was recently collected in 2014 by Brian Keener in Livingston, Alabama (Sumter County) and is new to the state (Kral et al. 2011). This taxon has also been documented from Moore County, North Carolina by Bruce Sorrie and reported to occur in Lincoln Parish, Louisiana (BONAP 2013). This species is easily identified by its solitary yellow flowers that have narrow tepals and a big funnel-shaped corona. *Narcissus bulbocodium* is native to open and rocky areas of Portugal, Spain, and southwest France (Webb 1980).

Figure 3. *Narcissus bulbocodium*, open woods, Sumter Co., Alabama, 20 Mar 2014. Photos: Brian R. Keener

3. Narcissus ×incomparabilis P. Miller {incomparable} [*N. poeticus* × *N. pseudonarcissus*] —



NONESUCH DAFFODIL; PEERLESS DAFFODIL (Fig. 4). Roadsides, pastures, woodland borders, railroad tracks; throughout Alabama; frequent; February–April. This sterile taxon is native to France and is thought to be a natural hybrid (Webb 1980). This hybrid is sometimes mistaken for *Narcissus pseudonarcissus* because it has solitary, yellowish flowers, but *N.* ×*incomparabilis* has a corona only about half the length of the tepals. *Narcissus poeticus* is also similar but has a shorter corona with a red rim. [FL, GA, MS, TN]

(a) Typical form (b) Frilled corona form (c) Double flower form

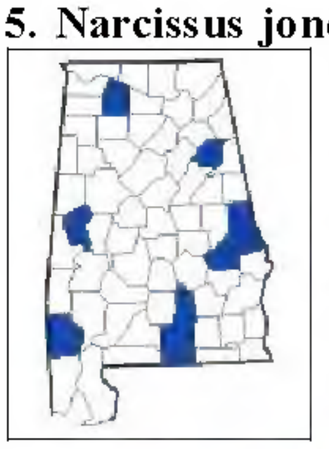
Figure 4. *Narcissus* ×*incomparabilis*. (a) Roadside, Green Co., Alabama, 19 Mar 2014. (b) Field, Marengo Co., Alabama, 6 Mar 2014. (c) Roadside, Wilcox Co., Alabama, 7 Mar 2014. Photos: Spaulding and Barger (b & c).

4. Narcissus ×odorus Linnaeus {scented} [*N. jonquilla* × *N. pseudonarcissus*] — CAMPERNELLE JONQUIL; SWEET-SCENTED JONQUIL (Fig. 5). Roadsides, fields, pastures and other open disturbed areas; throughout Alabama; common; February–April. This common hybrid is sterile and spreads through asexual means. *Narcissus ×odorus* is often confused with *N. pseudonarcissus*, but is usually multi-flowered, has golden yellow tepals that are distinctly longer then the corona, and grooved, narrow leaves that often overtop the flowers. *Narcissus ×odorus* is also similar to *N. ×intermedius* and *N. jonquilla*, but their flowers are much smaller. [GA, MS, TN]

(a) Paired flowers (b) Concave leaves (c) Flowers overtopped by leaves

Figure 5. *Narcissus ×odorus*. (a & b) Roadside, Lowndes Co., Alabama, 6 Mar 2014. Photos: Wayne Barger (c) Old field, Calhoun Co., Alabama, 14 Mar 2014. Photo: Dan Spaulding

5. Narcissus jonquilla Linnaeus {Spanish name for *Juncus*} — JONQUIL; APODANTHUS DAFFODIL



(Fig. 6). Roadsides and lawns; throughout Alabama; infrequent; February – April. The species has round (sometimes grooved) hollow stems that resemble rushes (*Juncus*) and are usually no more than 4mm wide. The name jonquil is derived from European names for rush (Martin 1987). Many specimens labeled as *N. jonquilla* were annotated to *N. ×intermedius*, which has wider, concave leaves and flowers that are bicolored rather than uniformly golden yellow. *Narcissus ×odorus* is also similar, but has much larger flowers with a longer corona. [MS, TN]

Figure 6. *Narcissus jonquilla*, roadside, Covington Co., Alabama, 20 Mar 2014. Photos: Wayne Barger

6. Narcissus ×intermedius Loiseleur {intermediate} [*N. jonquilla* × *N. tazetta*] — STAR DAFFODIL; STAR JONQUIL (Fig. 7). Roadsides, fields, power line right-of-ways, and old home sites; common on the coastal plain, infrequent in the Appalachian Highlands; February–March. This sterile hybrid spreads through asexual production of bulblets (Nesom 2010). It is often confused with *Narcissus jonquilla*, but *N.* ×*intermedius* can be distinguished by its channeled, concaved leaves that are mostly over 4 mm wide and has a darker orange corona contrasting with lighter yellow tepals. This hybrid's thick leaves, which are swollen and grooved, are intermediate between its parents, *N. jonquilla* and *N. tazetta*. [GA, MS]

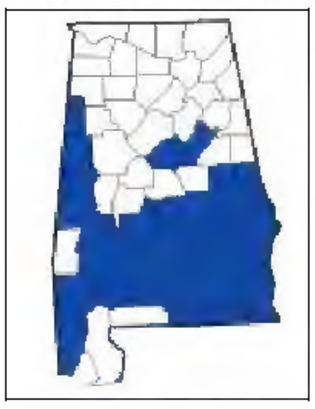


Figure 7. *Narcissus jonquilla*, roadside, Macon Co., Alabama, 7 Mar 2014. Photos: Wayne Barger

7. Narcissus poeticus Linnaeus {of the poets} — POET'S NARCISSUS; PHEASANT'S-EYE DAFFODIL (Fig. 8). Roadsides and old home sites; mostly northern Alabama; rare; March–April. This daffodil is introduced from Europe and has naturalized in the eastern half of USA and Canada, but appears to be more common further north (BONAP 2013). Almost all the plants identified as this species from Alabama were actually the hybrid *Narcissus* ×*medioluteus*, which can have solitary flowers but lacks the distinctive red-margined rim on the corona. The flowers of *Narcissus poeticus* are a little larger than *N.* ×*medioluteus*, but they are always solitary. [GA, MS, TN]

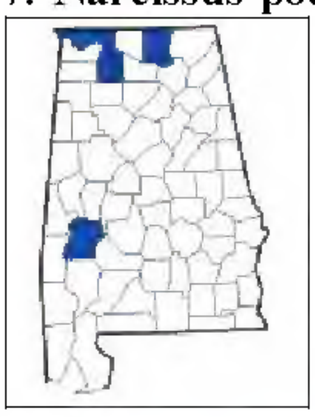


Figure 8. *Narcissus poeticus*, roadside, Lauderdale Co., Alabama, 20 Mar 2014. Photos: Wayne Barger

8. Narcissus ×medioluteus P. Miller {medium-yellow} [*N. poeticus* × *N. tazetta*] — PRIMROSE-PEERLESS; TWIN-SISTERS; TWO-FLOWER NARCISSUS (Fig. 9). Fields, roadsides, road banks, pastures, and other disturbed areas; chiefly northern half of Alabama; common; March–April. Flowers resemble *Narcissus poeticus* but are slightly smaller and usually in pairs, though they can be solitary or in threes. It lacks the red wavy margin on the rim of the corona, though it may have a thin reddish-brown ring around the upper portion of the corona. It differs from *Narcissus papyraceus* and *N. tazetta* by having fewer flowers (3 or less) and often has a small amount of yellow coloration at the base of the tepals adjacent to corona. [GA, MS, TN]

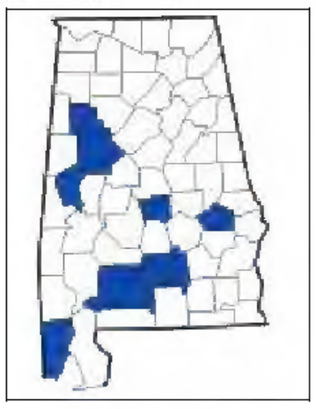
Figure 9. *Narcissus ×medioluteus*, old field, Calhoun Co., Alabama, 28 Apr 2014. Photos: Dan Spaulding

9. Narcissus papyraceus Ker-Gawler {paper-like} — PAPER-WHITE NARCISSUS (Fig 10). Roadsides, fields, disturbed sites; coastal plain; infrequent; November–March. This species is native to southern Europe and the Mediterranean region. It is reported for California, Texas and Louisiana (BONAP 2013). *Narcissus tazetta* is similar, but has a yellow or orange corona. Flowers are extremely fragrant and bulbs are often forced to bloom in winter as a temporary houseplant. Several subspecies of *N. papyraceus* are recognized by various authors and are separated by flower size, texture, and whether the leaves are glaucous or green (Webb 1980).

(a) Photo: Fred Nation (b) Photo Wayne Barger (c) Photo Wayne Barger

Figure 10. *Narcissus papyraceus*. (a) Roadside, Baldwin Co., Alabama, 4 Jan 2011. (b & c) Inflorescence and leaves, roadside, Elmore Co., Alabama, 14 Mar 2014.

10. Narcissus tazetta Linnaeus {small cup} — BUNCH-FLOWER DAFFODIL; CREAM NARCISSUS



(Figs. 1b & 11). Roadsides, fields, and old home sites; chiefly coastal plain; infrequent; February–April. This species is native to Western Europe, Mediterranean region, and southwest Asia. *Narcissus tazetta* is a strongly polymorphic species. Flower size, number and color are variable, which may due to many years in cultivation. All specimens of *N. tazetta* examined from Alabama and adjacent states had 4 to 15 flowers per stalk. According to Diggs et al. (2006), the inflorescences of *N. tazetta* usually have about 2–8(-15) flowers per stalk, whereas *N. papyraceus* have (2-)5–15(-20) flowers per stalk. Webb (1980) recognized three subspecies of *N. tazetta* in Europe: subsp. *tazetta* has pure white tepals; subsp. *italicus* (Ker-Gawler) Baker has cream colored tepals; and subsp. *aureus* (Loiseleur) Baker has golden yellow tepals with an orange corona. Individuals with white tepals are the most common form of this species in the South. It is sometimes difficult to distinguish white tepal forms of *N. tazetta* from *N. papyraceus* when dried because the colored corona of *N. tazetta* can fade. Some previous authors have considered the two species synonymous because of their similarity on herbarium sheets (Straley & Utech. 2002). Fresh specimens of *N. tazetta* are easily separated by the distinct yellow corona, which contrasts with the lighter tepals. The white tepal form can also be confused with *Narcissus* ×*medioluteus*, but *N. tazetta* typically has more than three flowers per stalk and lacks any yellow coloration at the base of their tepals. The yellow tepal form of *Narcissus tazetta* has recently been documented from Alabama and is reported to occur in other southeastern states. This color form can be confused with *N.* ×*intermedius*, but *N. tazetta* has completely flat leaves. [MS]

(a) White tepal form

(b) Close-up of inflorescence

(c) Yellow tepal form

Figure 11. *Narcissus tazetta.* (a) Roadside, Macon Co., Alabama, 20 Feb 2014. Photo: Wayne Barger (b) Roadside, Autauga Co., Alabama, 7 Mar 2014. Photo: Wayne Barger. (c) Herbarium specimen (AMAL), *Horne 1569*, Mobile Co., Alabama, 13 Mar 2011.

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LITERATURE CITED

Alabama Plant Atlas Editorial Committee. 2014. Alabama Plant Atlas. [S.M. Landry and K.N. Campbell (original application development), Florida Center for Community Design and Research. Univ. of South Florida]. Univ. of West Alabama, Livingston. <http://www.floraofalabama.org/>

Blanchard, J.W. 1990. *Narcissus:* A Guide to Wild Daffodils. Alpine Garden Society, Woking, Surrey, UK.

BONAP. 2013 (last update). North American Plant Atlas (US county-level species maps). Maps generated from J.T. Kartesz. Floristic Synthesis of North America, Version 1.0. Biota of North America Program. (in press). <http://bonap.net/NAPA/Genus/Traditional/County>

Dearing C. and D. Griffiths. 1930. Daffodils in eastern North Carolina. Bull. N.C. Dept. Agr. 1–56.

Diggs, G.M., B.L. Lipscomb, M.D. Reed, and R.J. O'Kennon. 2006. Illustrated Flora of East Texas, Vol. 1: Introduction, Pteridophytes, Gymnosperms, and Monocotyledons. Sida Bot. Misc. 26.

Dweck, A.C. 2002. The Folklore of the *Narcissus*. *In* G.R. Hanks (ed.). Narcissus and daffodil: The genus *Narcissus*. Taylor and Francis, London.

Engleheart, G.H. 1895. Hybrid Narcissi. J. Roy. Hortic. Soc. 17: 35–44.

Grieve, M. and C.F. Leyel. 1931. A modern herbal; the medicinal, culinary, cosmetic and economic properties, cultivation and folk-lore of herbs, grasses, fungi, shrubs, & trees with all their modern scientific uses. Harcourt, Brace & Co. New York.

Haworth, A.H. 1831. *Narcissinearum Monographia* (ed. 2), 1–22, London.

Ji, Z. and A.W. Meerow. 2000. *Narcissus. In* Z.Y. Wu and P.H. Raven (eds.). Flora of China. Vol. 24 (Flagellariaceae through Marantaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis.

Lee, M.T. 2012. Custom Distribution Maps for US Counties. Version 1.13, October 18, 2012. The University of North Carolina at Chapel Hill. <http://www.unc.edu/~mikelee/map/us-county-clickable.html > (accessed July 15, 2014).

Linnaeus, C. 1753. *Species Plantarum*. Tomus I & II. Impensis Laurentii Salvii, Stockholm, Sweden.

Martin, L.C. 1987. Garden Flower Folklore. Globe Pequot Press, Chester, Connecticut.

Meyer, F.G. 1966. *Narcissus* species and wild hybrids. Amer. Hort. Mag. 45: 47–76.

Nesom, G.L. 2010. Notes on *Leucojum* and *Narcissus* (Amaryllidaceae) naturalized in Texas. Phytoneuron 2010-9: 1–6.

Pugsley, H.W. 1915. *Narcissus poeticus* and its allies. J. Bot. (London) 53: 1–44, Suppl. 2.

Pugsley, H.W. 1933. A monograph of *Narcissus*, subgenus *Ajax*. J. Roy. Hort. Soc. 58: 17–93.

Serviss, B.E. 2009. *Narcissus* of Arkansas. Dept. of Biology, Henderson State Univ., Arkadelphia, Arkansas. <http://www.hsu.edu/interior4.aspx?id=11783> Accessed April 2014.

Smith, E.B. 1994. Keys to the Flora of Arkansas. Univ. of Arkansas Press. Fayetteville.

Straley, G.B. and F.H. Utech. 2002. *Narcissus*. In Flora of North America Editorial Committee (eds.). Flora of North America North of Mexico, Vol. 26. Oxford Univ. Press, New York and London.

Weakley, A.S. 2013. Flora of the Southern and Mid-Atlantic States (Working draft of 25 Feb). North Carolina Botanical Garden, Chapel Hill. <http://www.herbarium.unc.edu/flora.htm>

Webb, D.A. 1980. *Narcissus. In* T.G. Tutin, V.H. Heywood, N.A. Burges, D.M. Moore, D.H. Valentine, S.M. Walters, and D.A. Webb (eds.). Flora Europaea 5: 78–84. Cambridge Univ. Press, Cambridge, UK.